

BULLETIN OF
THE BRITISH MUSEUM
(NATURAL HISTORY)

MINERALOGY

Vol. 2

1963-1974

TRUSTEES OF
THE BRITISH MUSEUM (NATURAL HISTORY)
LONDON : 1976

U. I. C. C.
SEP 10 1976
LIBRARY

DATES OF PUBLICATION OF THE PARTS

No. 1	.	.	.	.	.	November 1963
No. 2	.	.	.	.	.	2 February 1968
No. 3	.	.	.	.	.	16 May 1969
No. 4	.	.	.	.	.	14 October 1969
No. 5	.	.	.	.	.	20 April 1970
No. 6	.	.	.	.	.	16 August 1973
No. 7	.	.	.	.	.	5 September 1973
No. 8	.	.	.	.	.	25 September 1974

116

CONTENTS

MINERALOGY VOLUME 2

	PAGE
No. 1. Description of the igneous rocks represented among pebbles from the Bunter Pebble Beds of the Midlands of England. By W. CAMPBELL SMITH	I
No. 2. Recent sedimentation in northern Cardigan Bay, Wales. By J. ROBERT MOORE	19
No. 3. The petrography and provenance of Anglo-Saxon and medieval English honesstones, with notes on some other hones. By S. E. ELLIS	133
No. 4. Some aspects of fenitization with particular reference to Chilwa Island and Kangankunde, Malawi. By A. R. WOOLLEY	189
No. 5. Petrology of Lord Howe Island, part I: the younger volcanics. By P. M. GAME	221
No. 6. The pseudoleucite borolanites and associated rocks of the south-eastern tract of the Borralan Complex, Scotland. By A. R. WOOLLEY	285
No. 7. Rocks from Antarctica: the <i>Discovery</i> collection in the British Museum (Natural History). By D. R. C. KEMPE	335
No. 8. The naturally occurring chromates of lead. By S. A. WILLIAMS	377
Index	421

INDEX TO VOLUME 2

- Aberdyfi 26-8, 35, 38-9, 41, 50-2, 54-5, 57,
59-61, 64-6, 68, 70, 76-8, 81-5,
89-91, 93-7, 100
- Aberystwyth 22, 25-8, 30, 35, 37-9, 41,
50-1, 53-7, 59, 61-70, 76-8,
81-2, 84-5, 88, 90-1, 93-4,
97-81, 100, Pls II, VI
- Acanthothyris crossi* 173
- adamellite, gneissose 344, 368
- Admiralty Hydrographic Dept. 31
- Admiralty Islets
227, 230, 243, 251, 257, Pls X, XIV
- Afon Clettwr. 92
- Afon Dyfi 26, 28, 58, 72-3, 83, 125, Pls III, IV
- Afon Leri 35-6, 92
- Afon Mawddach 58, 83
- Afon Ysgethin 49-50
- age determination 149-50, 351, 356, 360
- aikinite 393
- alkali feldspar 308-12
- chemical analyses 323
- diffraction patterns 309
- structure and alkali content 308
- alkali olivine basalt 226, 257, 277-84, Pls X-XV
- allanite 117
- Allt Bhronn 150-1, 186
- Almondbury, Castle Hill 137, 184
- Altanour Lodge 152
- alumino-silicates 127
- analime 227
- ANARE 1955-57 345
- Ancient Monuments Dept., M.P.B.W. 138, 145
- Andean orogeny 356
- andesine basalt 257, 283
- andesite 159, 169, 280, 341, 345, 359
- Angers 153, 186
- Anglesey 153
- anglesite 387, 399, 405-6, 410
- ankaramite 226, 265, 278-9, 282, 371
- Antarctica 337-74
- apatite 7, 348-9, 368
- aragonite 113
- Ardennes-Rhineland 153-8, 165, 182
- arenite 23, 29, 48, 62-3, 66, 69, 156-67,
Pls II, V, VI
- Arizona 391, 393, 399
- arkose 102, 160
- Arras, Pas-de-Calais 168
- artefacts 135-82
- Ascension 371
- ash 10
- Ashford 186
- Ashmolean Museum 139
- Atlantic coast 109, 112
- Atlantic islands 265
- Atlantic Ocean 30
- aureoles 155-6
- Aust-Agder 139, 145, 147, 150
- Australian Antarctic Territory 345-53
- Australian National Antarctic Research
Expedition (ANARE), 1954 345
- Aylesbury, Walton Road 138, 140-1, 184, 186
- Barmouth 26-7, 29, 31-2, 35-9, 41, 49-55, 57,
59, 61-2, 64-6, 68, 70, 73, 76, 78,
81-2, 84-5, 88-91, 93-100
- Barns Close 3
- Barrett, J. W. 163
- Barton, Black Ash Ditch 138, 140-1, 184
- basalt 159, 343-4, 363-9, Pls III, VII
- alkali 371
- aphyrical 344, 366
- chemical analyses 365, 367, 370
- chemistry of 371-3
- coarse 367-8, Pl. VII
- olivine 344, 366, 368-71, 373, Pl. VII
- ophitic 367-8, Pl. VII
- picritic 344, 367-8, 373, Pl. VII
- porphyritic 344, 364, 366, 368-70, Pl. VII
- tholeiitic 373
- vesicular 344, 366
- basement complex 356, 358-9, 362
- Bastogne 157, 186
- bathymetry 25-8
- Batuta Ibn 380
- Bay of Whales 344, 369
- Bealings 138-43, 149, 155, 184, Pl. VII
- Bean, C. E. 139, 170, 174
- Bedford Museum 159
- Bedfordshire 159
- Ballen Islands 344, 369, 371, 373, Pl. IV
- bellite 401-2
- Bennett, A. G. 354
- beresovite 400
- Berezov 380-95, 397, 399-400, 402-4
- Berkshire 167, 175
- Bertewaja Gora, near Nischne-Tagilsk
(Nizhnni-Tagil) 401
- Bertha Island 340, 345
- Bertjowaja Gorá 400
- Berwickshire 161
- Berzelius, J. J. 382
- Bindheim, J. J. 385
- biotite 5-8, 10, 12, 14-5, Pl. I
- Birmingham 3-4, 11-2
- Blackbury Camp 160, 184
- Blackhills Quarry 3

- Blair Atholl 152
 Blinkenthorpe beach
 225, 227, 230, 243, 257, 268, Pl. XIV
 Boat Harbour 230, 267, Pl. XV
 Boothby, Lieut. Cdr C. R. U., R.N.R. 345
 Borge Bay 360
 borolanite 285-333
 aegirine-nepheline-analcime 306-7
 chemical analyses 312-7
 leucocratic 306
 petrography 296-8, 302, 305
 xenoliths in 298-9
 Borralan Complex 285-333, Pls XVI-XXI
 boreholes 293, 300-4
 general geology 290
 ledmorites 329
 S.E. tract chemistry 312-25
 S.E. tract geology 291-2
 S.E. tract petrography 294-308
 Borth 26-8, 35-42, 50-78, 80-97, 100, 125,
 Pls II, V, VI
 Boulder City, Nevada 398
 boulder clay 28-9
 Boulonnais 155
 Bouvet Island 344, 364, 371, Pl. III
 Bouvetøya, *see* Bouvet Island
 Braemar 150, 152
 Brazil 389
 Breage 15
 Breezov, mineral list 399-400
 Bridgeman Island 371
 Bristnall Fields 3
 British Antarctic Survey 353-4
 British Museum
 139, 148, 157-8, 161, 167, 173, 175, 177
 British Museum (Natural History) 138-9, 158
 British, Australian, and New Zealand Antarctic
 Research Expedition (BANZARE), 1929-31
 345
 Brittany 153-5, 158, 162, 172, 182, Pls V, VIII
 Bromsgrove 12
 Buckinghamshire 138
 Buckle Island 369
 Bucks County Museum 138
 Budleigh Salterton 4, 7, 12-13, 15, Pl. I
 Buffon, Comte de 381
 Bunger Oasis 350-1
 Bunter pebble beds 3-16, 158
 Bury St Edmunds Museum 155, 166-8, 173-4
 Buzzards Bay, Mass. 87, 111-7, 119
 Bynack Burn 150
 Byzantium 182

 Cader Idris 69
 Caister-by-Norwich 166, 184
 calcite 4, 77, 125
 Caldecote 138, 140, 184
 Cambridge Univ. Mus. of Arch. and Ethnogr.
 138
 Cambridgeshire 138, 160
 Cannock Chase 3
 Cannon Street 163
 Canterbury, near Riding Gate 174
 Watling Street 174
 Canwell 3, 6, 10, Pl. I
 Cape Bowles 341, 353
 Cape Bruce 345
 Cape Darnley 341
 Cape Norvegia 366
 carbonate 48, 120, 127, 227
 carbonatite 191
 Cardigan Bay 21-127
 Carhaix 158, 186
 Carstone 171
 Catherine I 380
 Catherinebourg en Siberie 383
 Cawsand Bay 15
 Central Highland Quartzite, Series 151
 Cerig Duon 153
 cerussite 381, 384, 394, 399, 400-1, 405-6, 408
 chabazite 226
 Chadwick Grange 3
 Chapmans Hill 3
 Charley Hill honestone 166
 charnockite 350-1
 Charnwood Forest 166
 Chayes, F. 266
 Cheadle 3, 10, Pl. I
 Cheapside 139
 Chelyabinsk Oblast 384
 Cherbourg 13
 chert 4, 11, 69-70, 159-60, 162-3, 167, 169-70,
 172, 177
 Chesil Beach 158
 Chester Museum 137, 169
 Chesterford 162, 184
 Chilcarroch 162, 186
 Chilmington Quarry, Ashford, Kent. 17
 Chilwa Island 191-8
 chemical analyses 203
 geology 194
 Chilwa Province 194
 Chimney Rock 1
 chlorite 5, 10, 33, 47, 73-4, 79, 104-5, 151,
 157-9, 163, 360, 363, 369, Pl. VI
 chromite 387, 395
 Circum-Japan sea province 256, 260, 264, 27
 Clarence Island 341, 353-6, 360, Pl.
 clay 33, 45, 102-3, 105, 117-9, 12
 Clent 3, 6, 8, 15, Pl.
 cobbles 32, 36, 4
 Cockburn Channel 340, 35
 Cogné, J. 15
 Colchester Museum 13
 Coleman Street 163, 18
 collophane 176-
 Conconhas do Campo 38
 conglomerate 15, 342-3, 356, 362-3, Pls III, V
 copper mineralisation 34

- Coppergate 137
 coral 343
 Corby 186
 Cornwall 6, 8, 12, 14-6, 162
 Coronation Island 341, 356, 358, 362, Pls I, II
 Cox Lane 162-3
 Crag Plantation 170
 Crieff 158
 crinoids 4, 11
 crocoite
 381-90, 392, 395-6, 399-401, 406, 408, 410
 chemical analyses 404
 paragenesis 405
 physical properties 403
 synonyms 403
 X-ray data 404
 currents 30, 45
 Cynwyd, Montgomeryshire 165, 186
Cypridea propunctata 173-4
- d'Urville, J. S. C. D. 354
 dacite 159, 169
 Danelaw 180-1
 David, T. W. E. 224
 Deal Museum 139
 Deception Island 371
 Deeside 150
 Del Rio, A. 386
 Demidoff family 380, 382-3
 Derbyshire 162
 Devon 12-6, 153, 158, 160, 162, 168
 diabase 23
 diabolite 394
 diopside 346-8, 364
 diopside 394, 397
Discovery 345, 369
Discovery II
 338, 353-4, 356, 363-4, 366, 368-9, Pl. I
Discovery Reports 339, 345
Discovery Tablemount 363, 371
 dispersal of sediment 96-8, 127
 dispersion *see* sorting
 Djoué, F. E. A. (Zaïre) 397
 dolerite 23, 29, 368-9, 373
 Dolgellau 67, 75, 80
 dolomite 77, 113-4, 393, 399
 Dorestad 139, 148, 154, 181, 186
 Dorset 139, 157, 160, 170-1, 173, 177
 Douglas, G. V. 353
 Dove's Pavement 137
 Dover 173, 184
 dredges 344
 Drift 9, 14
 Dronning Maud Land 344, 368, 371, 373
 Dumfries 161
 Dumfries Museum 161
 Dumfriesshire 161
 Dundas, Tasmania 390
 Durloton Bay 174
- Dyfi 22, 25, 28-30, 36, 42, 52-3, 58, 60, 62-3,
 67, 69, 71-5, 77, 80, 83, 86-9, 92, 96, 99,
 125, Pl. IV
 dykes, chemical analyses 257, 392
 mineralogy 231-56
 petrology 226-7
- East Anglian Drift 177
 East Pacific Rise 265-7, 273
 East Tilbury 144
 Eastern Antarctica 350
 Eglwys Llanaber 37, 39, 62, 67, 83, 89, 96
 Eidsborg, Telemark 150, 186, Pl. VII
 Eifel pottery 154
 Ekaterinburg (Sverdlovsk) 380-1
 elements 79-95, 98-101, 108-21, 126-7
 aluminium 80, 113, 127
 barium 80-1, 113, 118, 127
 boron 80-2, 113, 118, 127
 calcium 83, 113, 115, 126-7
 chromium 83-4, 86, 113, 119, 127
 cobalt 83, 113, 117-9, 127
 copper 85-6, 113, 119, 127
 gallium 86-7, 111-3, 116-7, 121, 126-7
 iron 86, 113-4, 120-1, 126-7
 lead 89, 91-2, 113, 120-1, 127
 magnesium 87, 127
 manganese 87-9, 120, 127
 nickel 89-90, 113, 117-20, 127
 potassium 87, 127
 scandium 92, 113, 116-7, 121, 127
 sodium 89, 127
 strontium 92, 113, 115, 121, 126-7
 titanium 92-3, 95, 108, 110, 112-6, 126-7
 vanadium 95, 113, 121, 127, 386-7
 zirconium 95, 108-13, 116, 119, 126-7
- Elephant Island 353
 Elfdalen 6
 Ellefsen Harbour 362
 Ellington 145, 184
 elvan, elvanite 6, 14, 16
 Emberton 138, 141, 184
 embreyite 379, 388, 391-2, 397-8, 402, 408,
 410
 chemical analyses 408-9
 physical properties 408
 synonyms 408
 X-ray data 408
 enderbite 346
 Enderby Land 349
 enstatite 344, 368, Pl. VII
 eosite 400, 402
 epidosite 341, 355
 Erquy, Côtes-du-Nord, Brittany
 165, 186, Pl. VIII
 Erskine Valley 230
 Essex 138, 144, 155, 159, 169-70
 Exeter lavas 15
 Exeter Museum 160

- Haüy, René Just 384
 Hawaiian chain 269
 hemihedrite 398-9, 402-3, 405, 408-10
 chemical analyses 409-10
 paragenesis 410
 physical properties 409
 X-ray data 409
 Hercynian massif 153, 161-2
 Hermann, B. F. J. 384
 Hilton Pl. I
 Hod Hill 157-8
 Holderness 154
 Holland 136, 139, 148, 154
 Holmen Gras 362
 Holy Island (Anglesey) 186
 Hommedal 139, 147, 150
 honestones 135-182
 provenance 177-182
 Honor End, Buckinghamshire 168
 Hopwas Sand Pit 3, 8-10
 hornblende 77, 346-8, 364
 hornfels 136, 155
 Horton Kirby 175, 184
 Houdain 168, 186
 Hough-on-the-Hill 158-9, 161, 184
 Housmann, J. F. L. 388
 Howardian Hills 174, 186
 Huddersfield 137, 184
 Huddersfield Museum 137, 163
 Humboldt, F. H. A. 386
 Huntingdonshire 138, 145
 Hurstbourne Tarrant, Rag Copse 160, 167, 184
 hydroxyapatite 401
 hypersthene 346-9, 351
 hypersthene, garnetiferous 346-7

 illite 119
 ilmenite 112, 115, 226, 253, 273
 Inaccessible Island 341, 354, 356, 358
 Intermediate Hill 230
 Ipswich 138, 162-3, 184, Pl. VII
 Butter-market 138, 141
 Sugar Factory 138
 Ipswich Museum 137-8, 162
 iranite 394, 398, 402, 405
 chemical analyses 409-10
 paragenesis 410
 physical properties 409
 X-ray data 409
 iron ores 253-6, 273
 Iset River 380, 382

 Jenkins, F. 174
 Jérémme, Mme E. 13
 Jersey 13
 Joint Services Expedition to Elephant Island,
 1970-1 353
 Jolly's Farm 143
 jossaita 399, 403

 Kaiser Wilhelm II Land 351
 Kangankunde 191-3, 198-201
 chemical analyses 203
 geology 199
 Kazakhstan 384
 Keeper's Pool 3, 7
 Kemp Land 345
 Kent 139, 147, 155, 172-5, 177
 Kentish Rag 175-7, 182
 keratophyre 159
 Kermadec-Tonga trench 224
 Kettering, Westfield Museum 168-9
 King Edward VIII Gulf 345
 King George Island 371
 Kirton Beds 173
 Klaproth, M. 386
 Klioutschefscoi (mine) 383
 Knaresborough 137, 184
 Koksharov 380
 Kola Peninsula 149
 Kouschvinskoi (quarries) 382
 kyanite 177

 La Hague 13, 16
 Labrador beach 6
 Lake District 161, 165, 167
 lanarkite 394
 Lankrigg, Cumberland 166, 186
 Lant Street, Southwark 182
 Largs, Battle of 182
 Lars Island 364
 Larsen (Monroe) Island 354, 359
 Laurie Island 354, 356
 leadhillite 394, 399
 Leadhills, Scotland (Hopeful vein) 394, 400, 403
 Lehmann, J. G. 381-5, 390
 Lek 181
 leptynite 154
 leucoxene 141
 limestone 162, 172-7, 180, 182
 crystalline 354, 360
 limonite 171
 linarite 400
 Lincoln 186
 Lincolnshire 137, 158-9, 169, 171
 lindströmite 393
 Linford 169, 170-1, 184
 litharge 396
 Llandovery 23
 Llangollen, Denbighshire 165, 186
 Llein Peninsula 26, 30-1
 Lochar Moss 161
 London 138, 150, 160, 162-3, 168-9, 182, 184
 London (City) 184
 London Museum 139, 169
 London Wall 160, 182
 Longmynd 161, 186
 Longton 8
 Lord Howe Island 224-84

- Lord Howe Rise 224, 228-9, 266
 Ludlow 165
 lustre-mottling 172-7
 Luxembourg 154, 156
 Lyveden 138, 168-9, 184
- Machynlleth 69, 72, 74, Pl. III
 Macquart, Louis 383-6, 390-1
 MacRobertson Land 345
 Madras 350-1
 Magnet & Magnet Silver mines, Tasmania. 401
 magnetite 6
 Maidencombe 8-9
 Maidstone 186
 Maidstone Museum 147, 155, 172, 175
 Maker peninsula 8, 15-6
 Malabar Hill 225, 230, 267-8
 malachite 400
 Mam Tor sandstone 162, 171, 186
 mangerite 346
 Marazion 15
 marble 341-2, 361
 marcasite 346
 Marchup Grit 170
 Marco Polo 380
 Marr, J. W. S. 345, 353, 356
 Massif Central 153
 Maud Seamount 368
 Mawddach 22, 29, 42, 49, 52-3, 56, 60, 62, 67,
 69, 73-8, 80, 82-9, 92, 96-7, 99-100
 Mawson 345
 Mawson, Sir Douglas 345
 Mayen 186
 Mersea 155
 metamorphic rocks 118, 136-56, 187, 346-53
 mica 72-3, 79, 101, 104
 Michelsen Island 356, 362
 microdiorite 341, 359, Pl. VI
 chemical analysis 361
 microgranite 10, 13-14, 16
 microlites 47
 micropertthite 346-7
 Mid-Atlantic Ridge 265-7, 273, 363
 mid-ocean ridges 265-7, 273
 Middle beach 227, 230, 243, 251, 257, 265
 Midlands 3-4, 11-15
 Millstone Grit 136, 162, 165, 170-1, 182
 mimetite 401-3
 Mochras 26-9, 32, 53, 60, 86, 96
 Moe Island 360
 monazite 390
 Monolith, the Pl. IV
 montmorillonite 33
 Moorfields 138, 140-1, 143, 150, 182
 Morrington 186
 Morrington quarry 161
 Moseley 3
 Mount Gower 225-6, 230, 257, 271, Pl. XII
 Mount Lidgbird 225-6, 230, 257, 271-2, Pl. XII
- Mt Boucheron 340, 353
 Mucking 138, 140-1, 159, 170
 mullions 137, 142, 146-7, 149, 152-3, 182, Pl. VII
 muscovite 5, 7, 10, 14, 72-3, 79, 105, 118
 Mutton Bird Island 230
 Mutton Bird Point 225, 230
- Narrow Island 353
 National Antarctic (*Discovery*) Expedition,
 1901-4 345
 Ned's beach 227, 230, 243, 251, 257, 267, Pl. XI
 Néiva River 382
 nepheline, analyses 322
 nephelinization 209-10, 212-4
 New Caledonia 224
 New End 9, Pl. I
 New Red Sandstone 6
 New South Wales, Australia 224, 266, 269, 272
 New Wood 9
 New Zealand 224, 229, 266, 269, 272
 Nontron, France 390
 Norfolk Island 224, 228, 266
 Norfolk 137, 143, 146-7, 154, 157, 162-3, 166,
 168, 170-1, 176
 norite, quartz 346
 Normandy 11, 13-14, 16
 North Bay 230
 North beach 226-7, 233-4, 243-4, 251, 253,
 257, 265, Pls X, XI
 North Ridge 226
 North Staffordshire 11
 Northampton 154
 Northamptonshire 138, 145, 168-9
 Northumberland 170
Norvegia 364
 Norway 136, 139, 145, 147, 149-50, 153, Pl. VII
 Norwich Castle Museum
 137, 143-7, 157, 162-3, 166, 168, 170-1, 176
 novaculite 148, 154-6, 182
- Oakamoor 3, 10
 oceanite 226, 231, 257, 265, 278-9, 282, Pl. XII
 Old Gulch 226, 230, 268
 Old Quarry, Warley 3, 5, 8
 Old Red Sandstone 171
 lavas 170
 Old Settlement beach 230
 olivine
 226-7, 251-3, 273, 344, 369, Pls VII, XI, XII
 orthoclase 75, 77, 108
 orthophyre 8, 14
 Oslo Univ. Arch. Museum 139, 145, 147
 ostracods 173-5, 177
 Otago suite 266
 Otley, West Riding, Yorkshire 170, 186
 Oxenhope 165, 172
 Oykell Bridge 152, 186
- Paal Harbour 362
 Pallas, Peter 381-3

- biotite 341, 359
 biotite-epidote-actinolite 356
 chlorite-actinolite-clinozoisite-albite 356
 chlorite-hornblende 344, 360, 367-8, 373, Pl. VII
 chlorite-mica 341-3, 363
 diopside-hornblende 345, 364
 epidote-hornblende 341, 354, 358
 garnet-hornblende 342, 354, 362
 garnet-mica 342, 359, 362, Pl. VI
 garnetiferous 354
 green- 354-5, 360, 373
 hornblende 342
 mica-quartz 136-144, 149-154, Pl. VII
 quartz-epidote-muscovite-chlorite 341, 354
 quartz-mica 340-3, 353, 356, 360, 362
 quartz-mica-graphite 341, 354, Pl. VI
 quartz-muscovite-chlorite 341, 359
 quartz-muscovite-graphite 341, 354, 356
 schistosity 136, 144, 146
 schorl 155
 Schulze 381
 Scotia Arc 340, 353-63
 Scottish National Antarctic Expedition
 1903-4 354
Scrobicularia 77
 Scullin Monolith 340, 345-9
 Scunthorpe Museum 159
 Sea elephant beach 364
 Seal Hole 15
 Sebarz, Anarak (Iran) 394, 397-8
 sediments 21-127
 Seh-Changi, Iran 398
 Shackleton-Rowett Expedition, 1922 353
 Shannon, W. G. 8-10, 14
 Sheehan Nunatak, Islands 340, 345-6
 Sherborne, Bedwill Copse 139
 Old Castle 139, 140-1, 143
 Pinford Lane 170-1, 174, 184, 186
 Schoolroom 139, 141, 143
 Shetland 158, 165
 Shoal Bay 340, 353
 shonkinite 305
 analysis 316-7
 siderite 173
 Signy Island 354, 356, 360
 sillimanite 348-9
 siltstones 23, 136, 162-5, 167-172, 176, Pl. VIII
 Silver mines 380
 Sithney 15
 Skelton 137
 slate 29, 48, 63, 67, 69-70, 105, 126, 153, 156,
 166, 343, Pls III, VI
 Sling Common 3, 6, 8, 10, 15, Pl. I
 Snape 138, 184
 Somerset 168
 sorting 40-4
 South Orkney Islands 356-63, Pl. I
 South Shetland Islands 353, 371
 South Victoria Land 345
 Southampton Museum
 147-8, 160, 163-4, 167, 171, 173, 176
 Southend Museum 138
 Southern Ocean 338
 Southern Uplands 161-2
 Southwark, Lant Street 139, 141, 168-9, 184
Spartina 29, 106
 Speight, R. 224
 Spence Harbour 358
 spilite 159
 Spilsby Sandstone 176-7
 Spilsby 186
 spinel, gahnite 348
 spinel, green 346-8
 Sròn Dias Crag 150-2
 St Agnes 15
 St David's 14, 16
 St David's Head 30
 St Georges Channel 25
 St Neots 138, 184
 St Petersburg 383
 Stanofka River 382
 Star Gravel Pit 3
 Start Point 153, 186
 stibnite 386
 Stonar, Sandwich 139-41, 149, 184
 Stowbridge 3
 Strathmore 151
 Studland 160, 184
 Sturge Island 369, 371
 Suffolk 138, 143, 155, 162, 166-8, 173-4, Pl. VII
 Sulgrave 138, 145, 184
 sulphides 113
 Surrey 139, 145, 157, 176
 Sutton Courtenay 167, 175, 184, Pl. VIII
 Sutton Park 3, 7
 Sverdlovsk (Ekaterinburg) 380, 384
 Swindon 3, 186
 syenite, andradite-biotite 306
 synthesis of lead chromates 395-7
 Taberg 387
 Taguil (= Tagil) River 382
 Tal-y-garreg 27, 29, 35-6, 67, 75-6, 89-90
 Tamworth 3, 6
 Tanté 154
 Tasmania 394, 401, 403
 Tebbutt, C. F. 138, 145
 Teignmouth 6
 temperature 30
 tetrahedrite 393, 400
 Thanet 155
 Thetford 135, 137, 140-1, 143-8, 151, 154-5, 157,
 162-3, 168, 170-1, 176-7, 181, 184, Pl. VIII
 Thorpe Farm, Ellington 138, 140-1
 Tierra del Fuego 340
 Tilbury Museum 144
 Tilley, C. E. 345
 Tochil'naya Gora 400

- tonalite 161-2
 Tonga trench 266
 Torquay 8, 12, 14, 16
 Totschilnaia-Gora 383
 tourmaline 4-7, 9-13, 15, 118, 157, 161, 164,
 167, 169, 172-3, Pl. I
 Towyn 28-9, 38-9, 41, 49-51, 54-7, 59-61,
 63-70, 72-3, 75-6, 78, 80-94, 96-8,
 100, 125, Pl. II
 trachyandesite 371
 trachybasalt 257, 277-9, 369, 371, Pls XI, XII
 trachyte 226, 371
 Transit Hill 230
 Tremadoc Bay 25-6, 31, 58, 75, 86
 Tristan da Cunha 371
 Trysull 3
 tuff 10-11, 169, Pl. I
 Ty-wen 26, 29, 35, 38-9, 41-2, 49-51, 55,
 57, 59-62, 64-6, 68-70, 75-6, 78,
 80-2, 84-5, 88-94, 97-100
 Tynehead, Cumberland 165, 182, 186
 Tyrrell, G. W. 353

 Ui River 384
 Ulladulla trench 224, 266
 ulvöspinel 226, 253, 273
 Uncleby 158-9, 173-4, 184
 Universitets Oldsaksamling, Oslo 150
 Upper Glen Tilt 150-1
 Upper Nochtly 152
 Upper Stonnal 3
 Upper Strathdon 152
 Upper Thames Street 138, 160
 Urals, the 380, 389
 Useless Bay 359

 vacuoles 47
 Valdivia 364
 Valgouet 383
 vanadinite 384, 389, 399-400
 Var, France 387
 Vauquelin, L. N. 384-7
 vauquelinite 384, 388, 390-2, 397, 400, 402,
 405, 408, 410
 chemical analyses 407-8
 paragenesis 408
 physical properties 406
 synonyms 406
 X-ray data 406-7
 vermiculite 33
 Villeroulx Grit 165
 vullinite 304-5
 chemical analysis 316-7
 Vulture P.O., Arizona 399

 Walter's Ash, Buckinghamshire 168, 186
 Walton Pool 3
 Wanlockhead 403
 Warley 3, 8
 Watcombe 8, 10
 Water of Ayr Stone 182
 Watford, Hertfordshire 168, 186, Pl. VIII
 Watley Gill, Westmorland 166
 Watling Street 180, 185
 waves 30
 Weeford Works 3, 6, 10, Pl. I
 Welsh reference rocks, chemistry 24
 Wessex 180
 West Prong 22, 27
 West Stow 155-6, 166-9, 173-5, 184
 Westfield Museum, Kettering 138
 Whetstone, Middlesex 168
 Whin Sill 165, 170
 Whittle Hill quarry 166, 186
 Wickenburg, Arizona 403
 Wigtownshire 162
 Wildmore 12
 William Scoresby 338, 345
 William Scoresby Archipelago, Bay 345
 Wills, L. J. 3-4, 11-12, 14, 16
 Wilson, Clive 274
 Wilton Bay 363
 Windy Point 227, 230
 Withnoe Down 8, 10, 15
 Wöhler 387
 Wollaston Ridge 3, 5, 7, 9, 12-3
 Wortham 137, 140, 184
 wulfenite 387, 400
 Wye 155, 184

 X-ray mineralogy 72-9
 xenotime 346

 York 135, 137, 145-6, 160-1, 166, 180, 184, 186
 Clifford Street 144, 168
 Coppergate 144
 Dove's Pavement 164
 York Assembly Rooms 144, 174
 York Museum 137, 144, 160, 164, 166, 168
 Yorkshire 135, 144, 150, 154, 158, 160, 163-6,
 168, 171, 173-4, 176
 Yorkshire Museum 158, 173
 Young Island 369, 371, Pl. IV

 zeolite 226
 Zimapan, Mexico 386-7
 zircon 108, 111, 115, 126, 141, 177
 Zwetnoi (Tsvetnoi) mine 394

